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(54) Title: IMPROVED POROUS MULLITE BODIES AND METHODS OF FORMING THEM

(57) Abstract: A porous mullite composition is made by forming a mixture of one or more precursor compounds having the elements present in mullite (e.g., clay, alumina, silica) and a property enhancing compound. The property enhancing compound is a compound having an element selected from the group consisting of Mg, Ca, Fe, Na, K, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, B, Y, Sc, La and combination thereof. The mixture is shaped and to form a porous green shape which is heated under an atmosphere having a fluorine containing gas to a temperature sufficient to form a mullite composition comprised substantially of acicular mullite grains that are essentially chemically bound.